Small Business Innovation Research/Small Business Tech Transfer

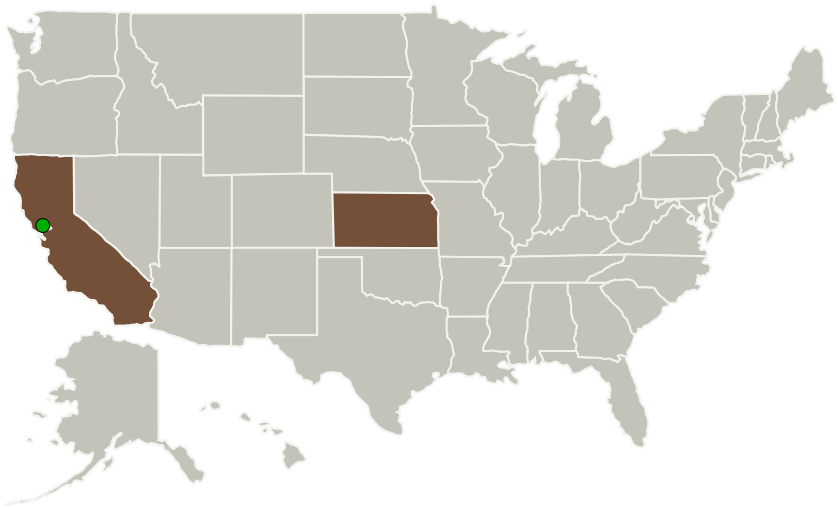
AirCore Reusable InSitu Sampler for CO2 and Trace Gas Measurements, Phase I

Completed Technology Project (2013 - 2013)

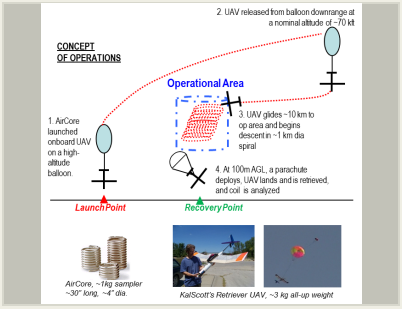
Project Introduction

A novel design for an in situ air sampling sensor for CO2 and trace gases is proposed. The sensor, named AirCore, provides the advantages of existing in situ sensors (e.g. high resolution) but eliminates possible biases in analysis that often originate from imperfect measurement condition. The AirCore provides a significant savings in cost and weight while increasing the capabilities of existing in situ sensors. The AirCore system consists of the AirCore gas sampler and the support system to accomplish its high altitude (nominally 70,000+ ft.) mission. This support system includes the sensor launch and recovery components. The AirCore can be launched and recovered by a limited crew, which reduces the operational cost of the system.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
KALSCOTT Engineering, Inc.	Lead Organization	Industry	Lawrence, Kansas
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California



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Primary U.S. Work Locations	
California	Kansas

Project Transitions

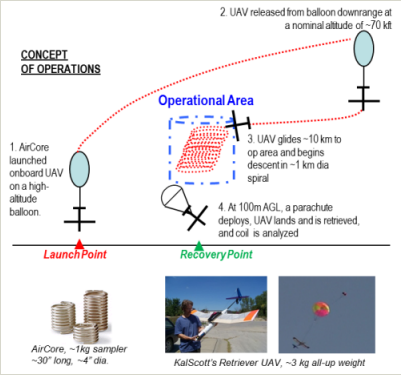
May 2013: Project Start

November 2013: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/140440)*

Images



Project Image
AirCore Reusable InSitu Sampler for CO2 and Trace Gas Measurements
(https://techport.nasa.gov/image/132866)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

KALSCOTT Engineering, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

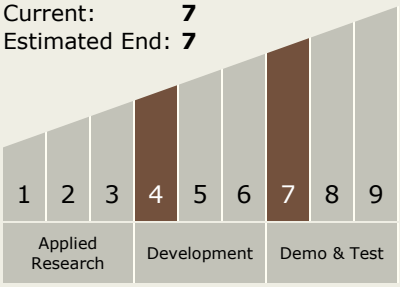
Carlos Torrez

Principal Investigator:

Tom Sherwood

Technology Maturity (TRL)

Start: **4**
Current: **7**
Estimated End: **7**



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Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.4 Microwave, Millimeter-, and Submillimeter-Waves

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System